



Army Training Modernization Directorate



*Range Requirements & Encroachment
Internal and External Pressures*

Colonel William S. Jones, Director

U. S. Army Training Support Center

Organized 3 September 1998

AWEEC 7 DEC 00



Our Army Training Role



Army Training Modernization Directorate

Through ODCST/HQ TRADOC, HQDA Executive Agent:

- **Range and Training Land Program (RTLTP)**
- **Training Ranges and Target Systems**
- **Training Ammunition (STRAC)**
- **Training Device Requirements Documentation, and Training Aids, Devices, Simulators, & Simulations (TADSS) Requirements**
- **Integrated Training Area Management (ITAM)**
- **Live Training Infrastructure Support**



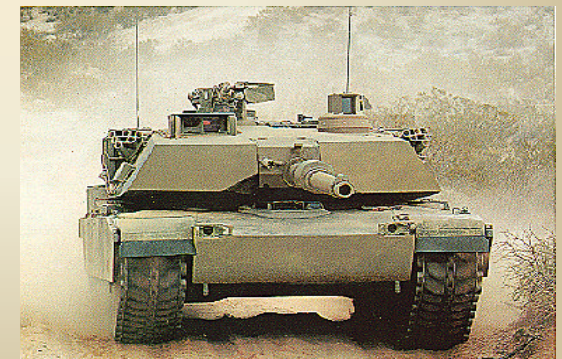
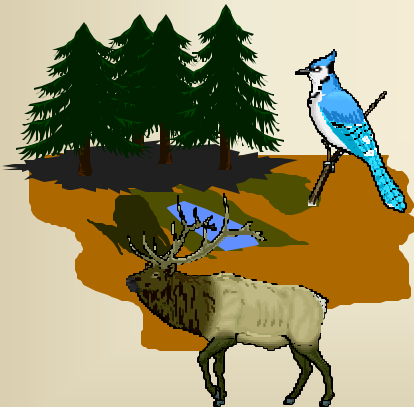
The Army's Training Challenge



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Live Training Requirements
BALANCED WITH
Internal and External Encroachment Pressures
to support
Operational Readiness





Operational Terms



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Sustainable Range Requirements:

- Supports national security objectives and maintains the operational readiness of the Armed Forces
- Ensures the long-term viability of DoD ranges while protecting human health and the environment.

-- Range Definition:

Land or water area for testing or training

Includes

Live Fire Ranges

Maneuver areas

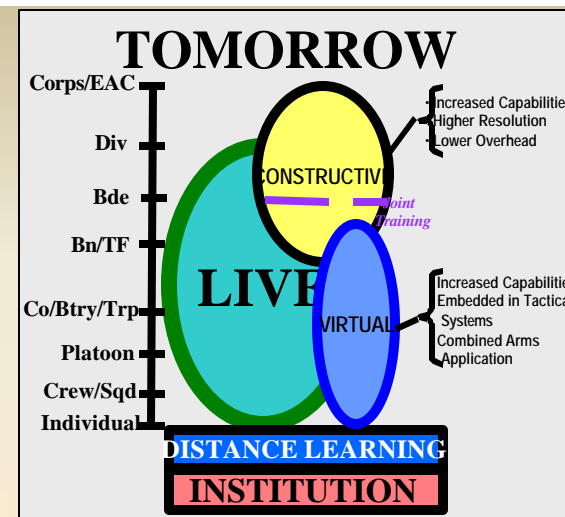
Impact areas

Buffer zones

DOD
Directive
4715.11



Live Training



- Develop and sustain skills best trained in Live Domain
- Provide opportunity to validate in real time and space
Constructive and Virtual Domains proficiencies
- Harden the force under realistic conditions

Provide:

- Realistic Force on Force training battlefield
- Relevant feedback capabilities
- Challenging live-fire ranges
- Relevant training tools (TADSS)



Live Fire Range Development Challenges



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Force Modernization

- Digitization of the Force
- Increased Weapons Lethality and range capabilities
- Increased Focus on Urban Combat
- Increase depth & breadth of battle space



**Range
Modernization**





Modernized Installation Minimum Essential Requirements (MER)



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- **Adequate Maneuver Land (Complex Terrain)**
- **Impact area for small arms through MLRS**
- **Range(s):**
 - ❖ **Digital Multi-purpose Range Complex**
 - ❖ **Digital Multi-purpose Training Range**
 - ❖ **Modified Record Fire**
 - ❖ **Combat Pistol Qualification Range**
 - ❖ **Multi-purpose Machine Gun Range**
 - ❖ **Grenade Launcher Range**
 - ❖ **Sniper Range**
 - ❖ **MK 19 40MM Qualification Range**
 - ❖ **Anti-Armor Live Fire and Tracking Range**
 - ❖ **Infantry Squad & Platoon Battle Courses**
- **Platoon/Squad level Urban Live Fire facilities**



Perceived "Threats" To Training



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Perceived "Threats" To Community



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Encroachment



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Senior Readiness Oversight Council



Focus Areas:

- Endangered Species Act (ESA)
 - Frequency encroachment
 - Air space restrictions,
 - Airborne noise
 - Outreach
 - UXO & Munitions,
 - Maritime encroachment,
 - Air pollution
 - Urbanization growth
- Presents a serious and growing challenge to force readiness
 - Affecting all Service Training - Air, Ground and Naval

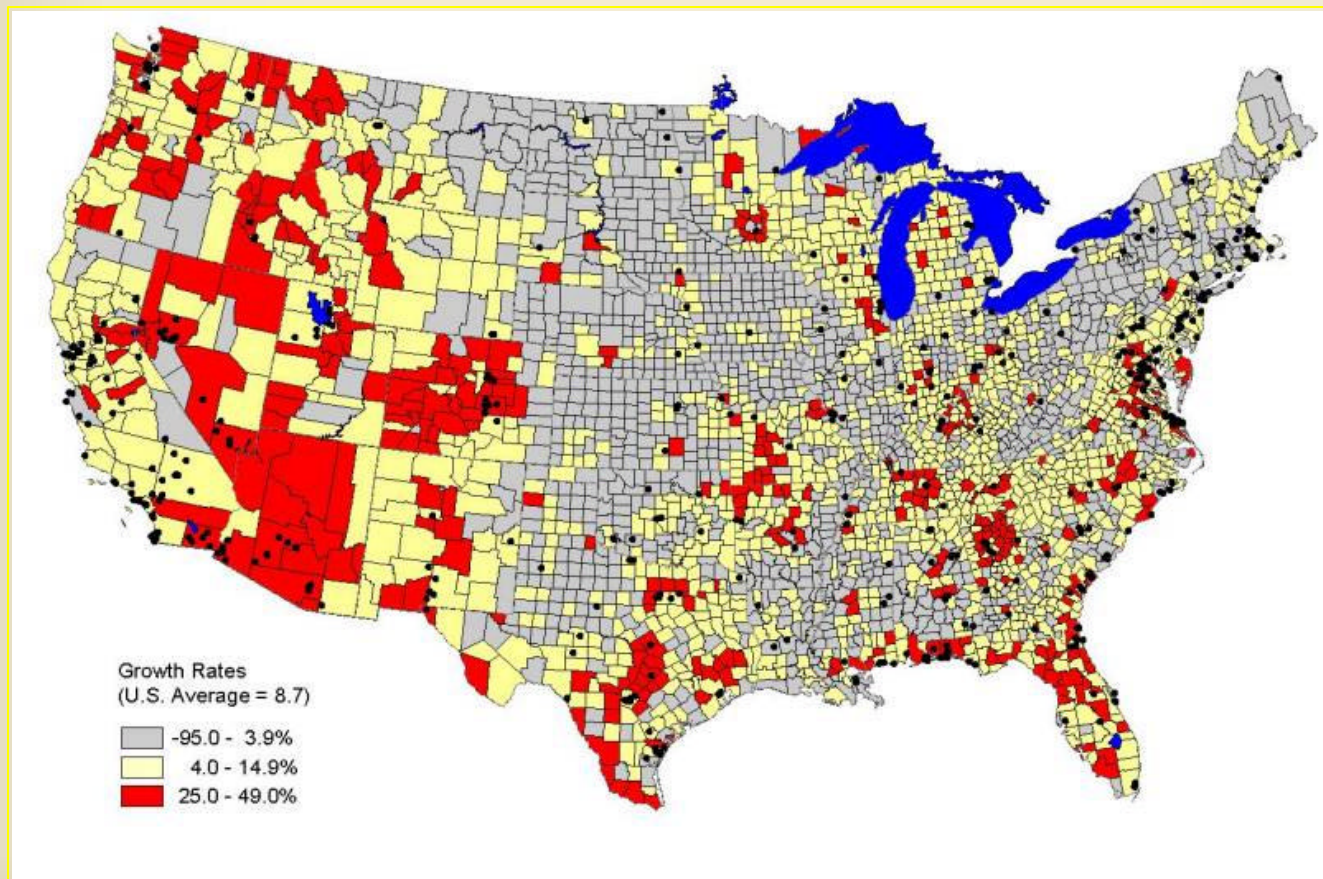


Encroachment



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**Increasing Population
Will Only Compound Demand for Scarce Resources**



County Population Growth Rates With DOD Installations

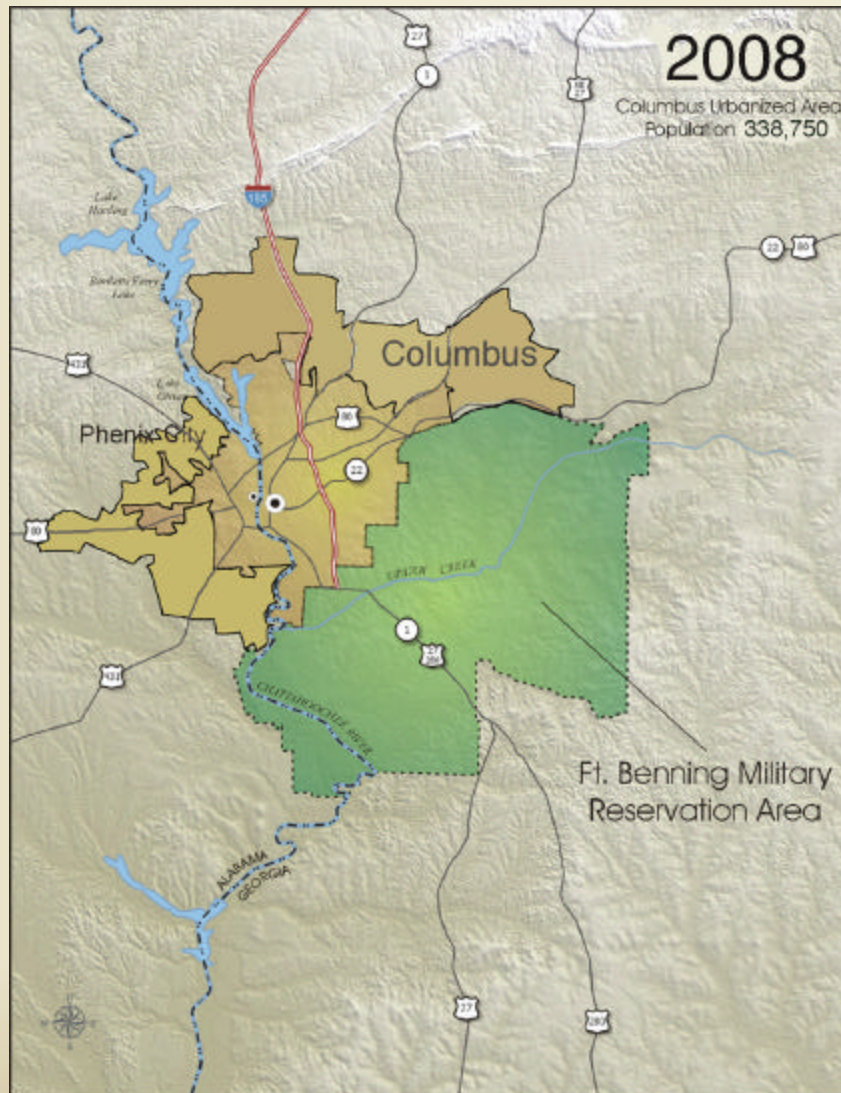


Ft Benning, GA

Urbanization Encroachment



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Transformation Increased Land Requirements



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NET MANEUVER ACRES	358,700
LURS Requires	552,000
SHORTFALL	193,300

Leach Lake Impact Area	89,860
Goldstone (NASA)	32,960
Cantonment Area	15,300
Non-Trafficable	111,900
Environmental Off Limits	23,660
Archaeological Off Limits	3,250
Other Areas	7,100
TOTAL Nonmaneuver	284,030



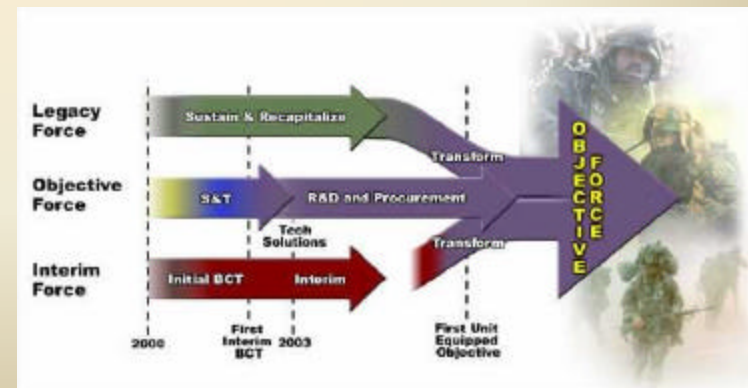


Ongoing Environmental Efforts in Support of Army Transformation



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- Environmental Assessment (EA) at Ft Lewis completed
- Environmental Impact Statement (EIS) Ft Polk underway
- HQDA Strategic Environmental Assessment underway
 - Provides Leadership Assessment of Potential Impacts
 - First Phase Completed and Briefed to Leadership
- HQDA Programmatic EIS Schedule: SEP 00 to OCT 01
- Need for EA/EIS at Each Future Modernized Installation will be required





Ongoing Initiatives and Potential Future Technological Solutions



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Sustainable Targetry



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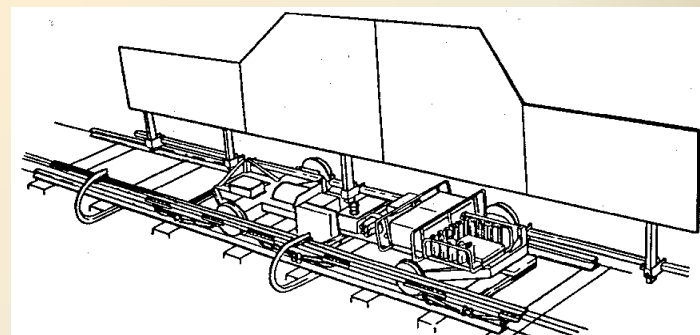
A Win - Win Example

DOD
Directive
4715.11

Par 5.5.5. “To the extent practical, use targets on DoD ranges that do not contain hazardous materials (e.g., petroleum, oils, lubricants, radium dials, and batteries).”

Armor Moving Target Carrier 226 Units World-Wide

- **Old Technology**
 - Costly O&M
 - \$41M over 10 years
 - Hydraulic Spills
 - Potential Range Shut Downs
- **Retro-Fit Project**
 - Cost: \$ 6M Improves Training
 - O&M Cost Avoidance: \$ 24M
 - Reduces Spills
 - Reduce Energy Use





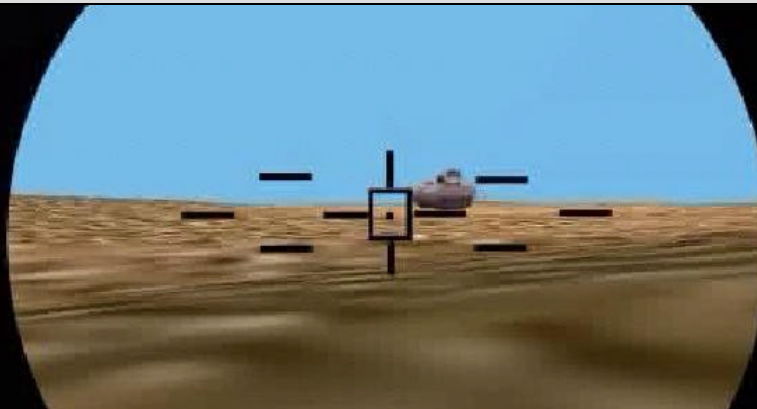
Embedded Simulation



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Embedded simulation would provide:

- Capabilities to display a virtual environment in vehicle sensors
- Crews use vehicle subsystems to interact within the virtual domain
- Providing valuable training experiences previously not possible or prohibitive



ES Potential Benefits

- Enhances live training
- Can address the issue of live training for extended range/capabilities of future weapon systems
- Train better at lower cost
- Lessen environmental impacts



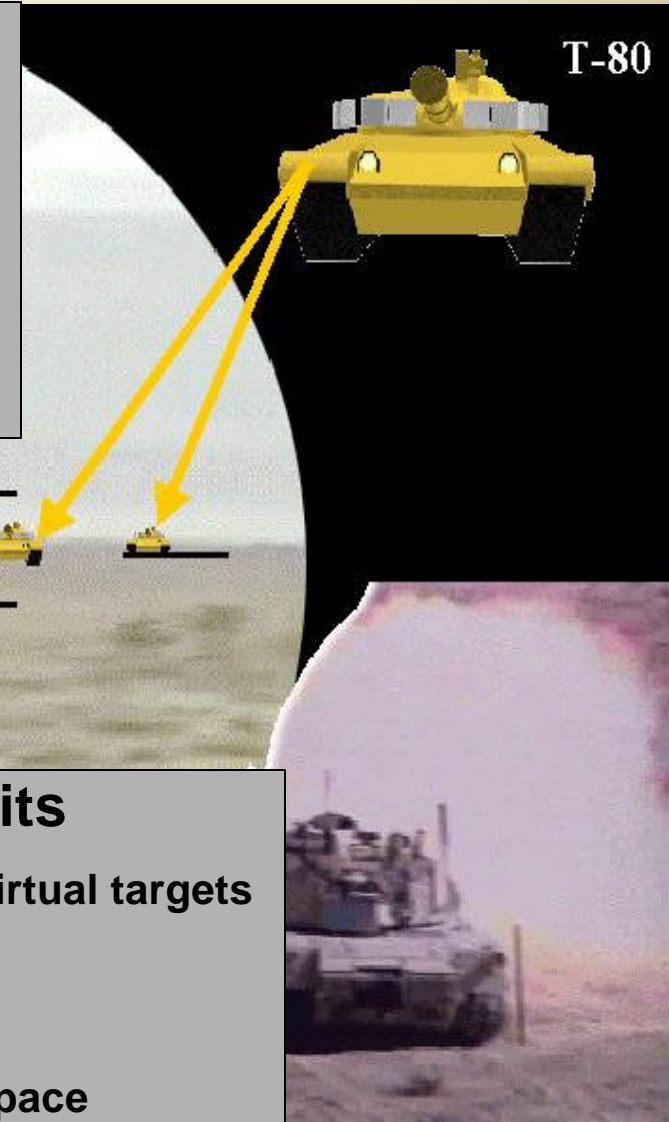
Digital Range Capabilities



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Training Benefits

- Crews train in their own vehicles
- View fully virtual, interactive scenes on vehicle displays
- Semi-automated OPFOR with variable skill levels
- Train interactively with other crews, virtual wingman, CCTT



Environmental Benefits

- Fire virtual ammunition at virtual targets
- Live fire on virtual targets
- Virtual maneuver capability
- Virtual extension of battle space

